

What is claimed:

1. A process for dyeing fiber materials with sulfur dyes by regenerating the dyebath redox potential, which comprises, during the dyeing process, the dyeing liquor being circulated between the dyeing apparatus and an attached electrolytic cell and the sulfur dye which has been unwantedly oxidized in the dyebath being cathodically reduced in the electrolytic cell.
2. A process as claimed in claim 1, wherein the dyebath redox potential is closed loop controlled by the cell current.
3. A process as claimed in claim 1 and/or 2, wherein the electrolytic cell used is a divided electrolytic cell and more advantageously a membrane electrolytic cell.
4. A process as claimed in one or more of claims 1 to 3, wherein the conducting electrolyte used is selected from alkaline solutions and more preferably from alkaline solutions of alkali metal salts, especially of sodium hydroxide, potassium hydroxide, sodium carbonate, sodium chloride or sodium sulfate.
5. A process as claimed in one or more of claims 1 to 4, wherein the dye concentration in the dyebath is in the range from 0.5 to 100 g/l of pure dye and more preferably in the range from 5 to 50 g/l of pure dye.
6. A process as claimed in one or more of claims 1 to 5, conducted at a temperature in the range from 20 to 135°C and more preferably in the range from 60 to 95°C.
7. A process as claimed in one or more of claims 1 to 6, conducted under an inert atmosphere.

8. A process as claimed in one or more of claims 1 to 7, wherein the fiber materials used are fiber materials composed of cellulose or polyamide or cellulose-polyester or cellulose-polyamide blends.